

ADRC Return on Investment (ROI) Calculator Web Application User Guide

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In the Return on Investment (ROI) Web Calculator Application, there are two versions the calculator. Instructions for how to access each, enter data, and interpret results for both calculator versions are below. If you wish to find information regarding the ADRC-specific calculator, please being on page 5 of this document.

ROI Calculator – Basic Return on Investment Calculation

This is the publically accessible version of the ROI calculator, and it does not require a registered user login. This version of the ROI calculator does not have access to facility specific historical data. It is intended to be used for approximate estimation of ROI to set future goals or other predictive/goal setting purposes. The information entered in this calculator is not saved.

- 1) Go to the ROI web application here: <https://apps.metastar.com/Apps40/NWDROI>
- 2) On the homepage click the “Enter Data” button or the “ROI Calculator” menu item.

Home



The Return on Inv

Purpose

This web application calculates return on investment (ROI) associated with Wisconsin ADRC services to streamline access to long-term services and supports t Wrong Door Grant. The methods and data generated through this grant will help sustain state and national momentum for system change that increases acce

Methodology

The calculator uses two measures to determine the ROI of Wisconsin ADRCs. The results are presented for each of these outcome variables and finally an ove each person contacting an ADRC at least once. The dollar value associated with savings in each measure is determined through studies referenced in the deta

Return on Investment

The ratio of dollars spent to net savings/profit (savings minus expenses). In other words, the net savings for every dollar spent on running a NWD system.

$$ROI = (Savings - Cost) / Cost$$

An ROI is also calculated as a percentage. In this case it is the net savings (savings minus expenses) as a percentage of expenses.

Measure Definition

1. Measure 1 – Hospital 30 Day Readmissions
 - a. Non risk-adjusted readmissions for Medicare FFS beneficiaries age 65 or older who were hospitalized at a short-stay acute-care hospital and expi
2. Measure 2 – Hospital Emergency Department Visits
 - a. The Yale definition is applied, which uses both facility-based and provider-based claims, and was developed after extensive clinical review of cod
3. Overall ROI
 - a. An overall ROI calculated by aggregating the results of the two individual ROI measures.



3) You will be presented with the data entry page (below).

Home **ROI Calculator** Resources ▾

Basic Return on Investment

To calculate a general return on investment (ROI) for ADRC services, select the timeframe from the drop down box below and enter both the number of ADRC contacts and c FTE providing I&A and Options Counseling. Since ADRCs have different organizational structures, interpretations of this field may vary. You will then be directed to another p.

Number of Months *

Number of ADRC Contacts *

Cost of ADRC Operations *

Number of ADRC Staff (optional)

Calculate ROI

4) Select the time period desired (1 month, 3 months, 6 months, or 12 months). Enter the number of ADRC contacts for the selected time period. Please exclude contacts that have an administrative outcome from your estimate. Finally, enter the cost of ADRC operations during the selected time period and click the “Calculate ROI” button.

Home **ROI Calculator** Resources ▾

Basic Return on Investment Calculation

To calculate a general return on investment (ROI) for ADRC services, select the timeframe from the drop down box below and enter both the number of ADRC contacts and cost of ADRC operations FTE providing I&A and Options Counseling. Since ADRCs have different organizational structures, interpretations of this field may vary. You will then be directed to another page detailing the ROI for

Number of Months *

Number of ADRC Contacts *

Cost of ADRC Operations *

Number of ADRC Staff (optional)

Calculate ROI

5) This will redirect you to the ROI report page.

ROI Results

WI DHS No Wro

Home ROI Calculator Resources

Hospital 30 Day Readmissions ED Visits Overall ROI

According to a [study conducted by the Agency for Healthcare Research and Quality](#), an unnecessary readmission at a hospital costs \$14,400 in 2016. Services provided by Wisconsin ADRCs can lead to a reduction in the number of unnecessary readmissions to a hospital. A study conducted by the Wisconsin DHS examines the change in number of readmissions in a 12-month period before and after contact. Readmissions for a control group similar to the ADRC visitor group are also examined and compared to the ADRC group. The study found that the number of readmissions decreased for the ADRC group in the period post contact, while it increased for the group that did not visit an ADRC. The difference between the change in readmissions between the two groups was found to be 0.061 per visitor with a confidence interval of 0.1003 to 0.0213. We will use this number to identify the savings from an ADRC visit.

Savings Calculation

1. Readmissions Saved = Number of ADRC Contacts * Readmissions Saved Per Contact
2. Savings from ADRC = Readmissions Saved * Cost of unnecessary hospital readmission

Savings

1. Readmissions Saved = 786 * 0.061 = 47.946
2. Savings from ADRC = 47.946 * \$14,400.00 * (12 / 12) = \$690,422.40

This page has three tabs, and each tab corresponds to one of the two outcome measures with the final one being the overall ROI calculation.

Each tab consists of the following sections (top to bottom):

- 1) A description of the measure, and the assumptions used for the ROI calculation.
- 2) The ROI formula.
- 3) The actual ROI calculation for that measure.

ROI Calculator –ADRC-Specific Return on Investment Calculation

This version of the ROI calculator requires registered login information. It has access to ADRC-specific historical data, which is used for the calculation. This calculator displays ROI trends, statewide benchmarks and stores historical data.

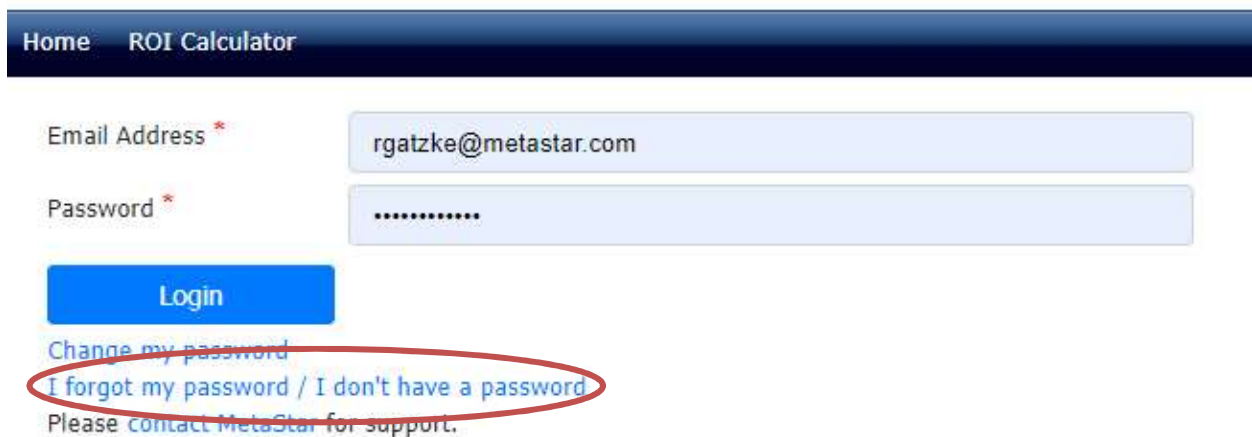
Request Login (for new users)

- 1) Go to the ROI web application here: <https://apps.metastar.com/Apps40/NWDROI>
- 2) On the application home page, click on the “Login” link at the upper right hand area of the page (below)



- 3) You will be directed to the login page. Click on the “I forgot my password / I don’t have a password” link (below)

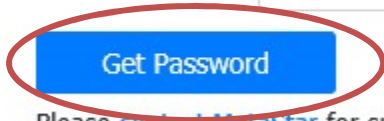
Login

A screenshot of the login page. At the top, there is a dark blue navigation bar with 'Home' and 'ROI Calculator' links. Below this, there are two input fields: 'Email Address *' with the value 'rgatzke@metastar.com' and 'Password *' with a masked password '.....'. A blue 'Login' button is positioned below the password field. Below the 'Login' button, there are two links: 'Change my password' and 'I forgot my password / I don't have a password', with the latter link circled in red. At the bottom, there is a small text link: 'Please contact MetaStar for support.'

- 4) Enter your email address and click the “Get Password” box (below). A temporary password will be sent to the email address that you provided.

Enter your email address and click the 'Get Password' button. We'll email you a link to a page where you can receive
Note: it may take several minutes for the email to reach you.

Email Address *



Please [contact MetaStar](#) for support.

- 5) You will then receive an email from webmaster@metastar.com (email may be flagged as spam/junk so check those mailboxes if you do not receive the email in your inbox) notifying that you have requested a link to reset your password. Click on the link to have a temporary password emailed to you (below).

webmaster@metastar.com |
WI DHS No Wrong Door ROI Calculator

Thank you for using the WI DHS ROI Calculator website.

You have requested a link to reset your password.

Click the following link to have a temporary password emailed to you: [Reset Password](#)

If you did not make this request for a new password, please contact MetaStar's IT Help Desk at webmaster@metastar.com immediately.

Thank you!

- 6) You will then receive another email from webmaster@metastar.com, sending you your temporary password. Copy this password and click on the login link and you will be directed to create a new password.

Thank you for using the WI DHS ROI Calculator website.

A temporary password for MetaStar's website has been generated.

Your temporary password is **0717ffec!D**

Click the following link to log into the web site: [Login](#)

You will need to change your password when you log in.

Thank you!

- 7) Enter the temporary password sent from webmaster@metastar.com in the “current password” box. Create a new password and enter that into both “new password” boxes. This new password will be your permanent password used for future access to the application.

How to Login (for users with login passwords)

- 1) Go to the ROI web application here: <https://apps.metastar.com/Apps40/NWDROI>
- 2) On the application home page, click on the “Login” link at the upper right hand area of the page (below)

for NWDROI Calculator



Login

- 3) You will be directed to the login page. Please enter your registered email address and password and click the “Login” button.

- 4) Upon successful login you will be redirected to the ROI calculator page:

Adding Users to the Application

- 1) Once you have logged into the application in your ADRC’s account, you will have the ability to add new users. You will want to limit access to only the staff at your ADRC, as all users will have the ability to add and edit your ADRC data. To add a user, click on the “ADRC Member List” in the banner.

Home

The Return of

Purpose

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Return on Investment

The ratio of dollars spent to net savings/profit (savings minus expenses). In other words, the net savings for every dollar spent on running a NWD

ADRC Member List

WI DH

- 2) This will direct you to your current ADRC member/user list. Each user's name, email address, and login activity will be listed here. To add a new user, click the "Add an ADRC Member" hyperlink on the page.

ADRC Member List

Home ADRC Data ROI Calculator **ADRC Member List** Resources

ADRCName

[Add an ADRC Member](#)

	ADRC	Last Name	First Name	Email	Last Login Date	Inactivated Date	Created Date
Edit	ADRC of ABC County				5/26/2021		5/21/2021
Edit	ADRC of ABC County				6/8/2021		5/24/2021
Edit	ADRC of ABC County				5/26/2021		5/21/2021
Edit	ADRC of ABC County				5/21/2021		5/19/2021

Showing 1 to 4 of 4 entries

- 3) To complete the process, enter in the user’s first and last name, and email address. Then click “Save.” Once you have completed this process, an automatic email will be sent to that user for them to complete their login process to gain access to the application.

Add Member

Home ADRC Data ROI Calculator **ADRC Member List** Resources ▾

Save Cancel changes Add a Member

ADRC ADRC of ABC County

First Name *

Last Name *

Email Address *

Inactivated Date

- 4) You can also update a user’s profile, or inactive an account for staff that leave your ADRC, or no longer need access to the application. To do this, go back to the “ADRC Member List” tab on the banner, and select the “Edit” hyperlink to the left of the user’s name. This will give you the ability to edit the user’s name or email address that is associated with the application. To inactivate a user, left-click on the “Inactivated Date” box and select the inactivation date. Once you click “Save,” that user will no longer have access to the application starting from the date that you selected.

Update Member

Home ADRC Data ROI Calculator **ADRC Member List** Resources ▾

Save Cancel changes Add a Member

ADRC ADRC of ABC County

First Name * Ross

Last Name * Gatzke

Email Address *

Failed Login Attempts


Inactivated Date

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Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Data Entry

- 1) To enter data for your ADRC (ADRC-Specific ROI calculation), click on “ADRC Data” on the menu bar.

ROI Calculator **WI DHS No Wrong Door NWDROI Calculator** 

Home **ADRC Data** ROI Calculator ADRC Member List Resources

Welcome, Ross Gatzke Sign out

ADRC-Specific Return on Investment Calculation

From the drop-down boxes below, select your ADRC and time period and click the "Calculate ROI" button below to calculate your ADRC's ROI on each of the two measures, using a standard ROI rate for all Wisconsin ADRCs.

ADRC

OR

Statewide

Begin Date *

End Date *

Calculate ROI

- 2) Now you should be on the data entry page. Enter your ADRC data for the chosen timeframe.

Home **ADRC Data** ROI Calculator ADRC Member List Resources

ADRC

The table below allows you to enter monthly data, specific to your ADRC. The data that you provide will be used to calculate your ADRC's monthly ROI. Additional information about the data entry variables are below:

- Number of ADRC contacts: Includes all unique, unduplicated ADRC outcomes except administrative contacts.
- Cost: Staff should enter the monthly dollar amount only associated with the total sum of the following six CARS profiles (in the table below) for the timeframe as the customer contact data. These CARS profiles capture both direct and indirect service costs that align with the customer contact data.

	Expense Reporting profile
NH Relocation I/A MA	560060
NH Relocation LTCFS/Data MA	560057
NH Relocation Other expense Non-MA	560063
I&A I/A MA	560086
I&A LTCFS/Data MA	560096
I&A Other Expense Non-MA	560095

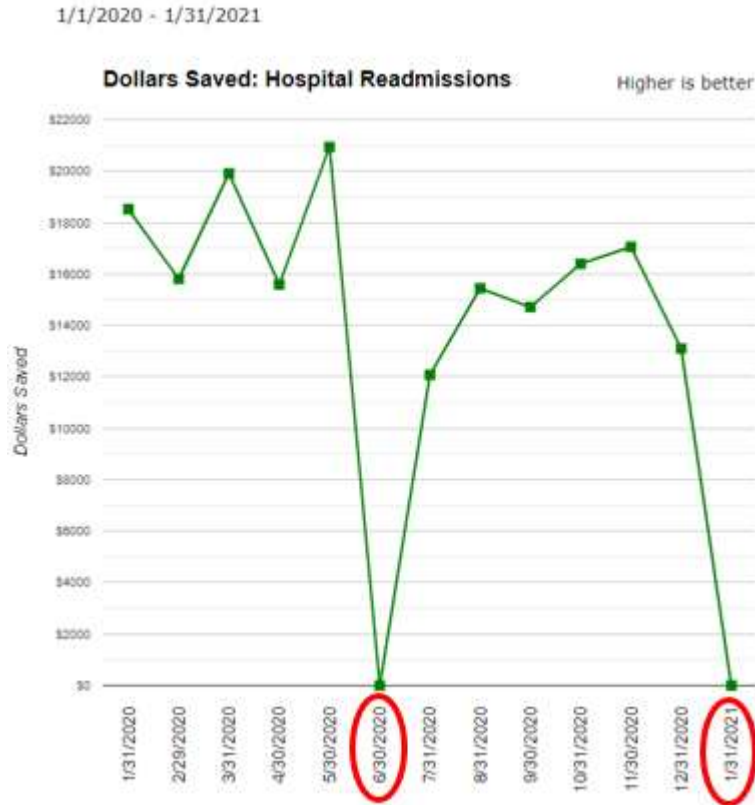
- Notes: Option to provide additional information about any unique or extraordinary increases or decreases in any of the variables for a given month.

When you have completed the data entry for your ADRC, click the "Save" button to save your results. To avoid calculation errors, make sure that you enter complete data for both number of ADRC contacts and cost elements, for each month in a given time period.

Save Cancel changes

Date	Number of ADRC Contacts	Cost	Notes	Last Updated By
4/30/2021	0	0.00		Steve Briski - 5/17/2021 at 5:32 PM
3/31/2021	187	21,556.00		Ross Gatzke - 5/18/2021 at 10:01 PM

- I. Enter the following data for each month:
 - a. Column 1: *Date* – this is pre-populated. Frequency – monthly.
 - b. Column 2: *Number of ADRC Contacts* for the month listed in the date column. Please exclude contacts with an administrative outcome. Also, contacts over a timeframe should be unduplicated, and only counts of unique individuals should be applied. For example, if you wish to calculate the ROI of your ADRC over a 12 month period, a unique individual who visited your ADRC during that period should only be counted once, even if they had visited multiple times in that period.
 - c. Column 3: *Cost of ADRC* – total monthly cost of your ADRC. Staff should *only* enter the dollar amount, calculated by summing the amount for the following six CARS profiles (below) for the same timeframe as the customer contact data. These CARS profiles capture both direct and indirect service costs that align with the customer contact data.
 - NH Relocation I/A MA: 560060
 - NH Relocation LTCFS/Data MA: 560057
 - NH Relocation Other expense Non-MA: 560063
 - I&A I/A MA: 560086
 - I&A LTCFS/Data MA: 560096
 - I&A Other Expense Non-MA: 560095
 - d. Column 4: *Notes* – Includes explanation of unusual number or contacts, costs or any other information about anomalous data.
- II. Click the “Save” button periodically to save the data. Any unsaved data will be lost if you navigate away or close the page before saving it. To remove any data, simply delete the data in the cell(s), and click “Save.” Those cells will now be completely blank.
- III. Confirm that you do not have any blank (or zero amounts) for the data entry elements (number of ADRC contacts or cost) for any of the months in the timeframe that you wish to run the analysis. Missing data will produce erroneous results (see next page).



If you do happen to miss a monthly data element entry, and include that month in the calculation timeframe, you will most likely see significant dips in the measure charts. The chart above is an example of this. In two months included in this analysis (June 2020, January 2021), there are blank data entries (circled above). To resolve this issue, simply go back to the “ADRC Data” tab and enter data into months with blank data elements. You can always populate or adjust previous monthly data entries, if needed.

- IV. To view your ADRC ROI results, select “ROI Calculator” tab on the banner (steps provided in the next section, below).

View Output (ADRC-Specific ROI calculations)

- 1) Upon successful login you will be redirected to the ROI calculator page. If you are on another page click on “ROI Calculator” in the menu bar to navigate to it. In the dropdown, you can select your ADRC, or if you would like to see the statewide results, check the “Statewide” box.

ADRC-Specific Return on Investment

From the drop-down boxes below, select your ADRC and time period and click the "Calculate ROI" button below to calculate your ADRC's ROI on each of t

ADRC

Include Statewide ROI

OR

Statewide

Begin Date *

End Date *

Calculate ROI

- 2) Select the date range for the report using the "Begin Date" and "End Date" dropdowns. Make sure there is data entered for the date ranges that you select, as there will be calculation errors associated with selecting timeframe ranges when there was no data entered. If you wish to see the statewide ROI results, as a benchmark, click the "Include Statewide ROI" box. The statewide overall ROI results will appear in "Overall ROI" results tab, along with your ADRC's ROI results.

ADRC-Specific Return on Investment Calculation

From the drop-down boxes below, select your ADRC and time period and click the "Calculate ROI" button below to calculate your ADRC's ROI on each of the two measures, using :

ADRC

Include Statewide ROI

OR

Statewide

Begin Date *

End Date *

Calculate ROI

3) This will redirect your ADRC-Specific ROI calculation report page (below).

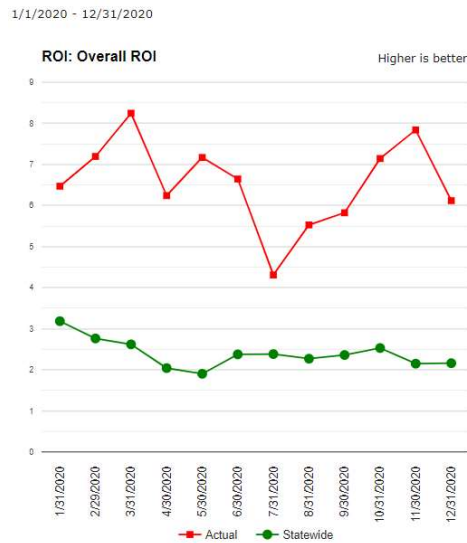


This page has three tabs, and each tab corresponds to one of the two outcome measures (Hospital 30 Day Readmissions, ED Visits) and the final tab is the overall ROI calculation.

Each tab consists of the following sections (top to bottom):

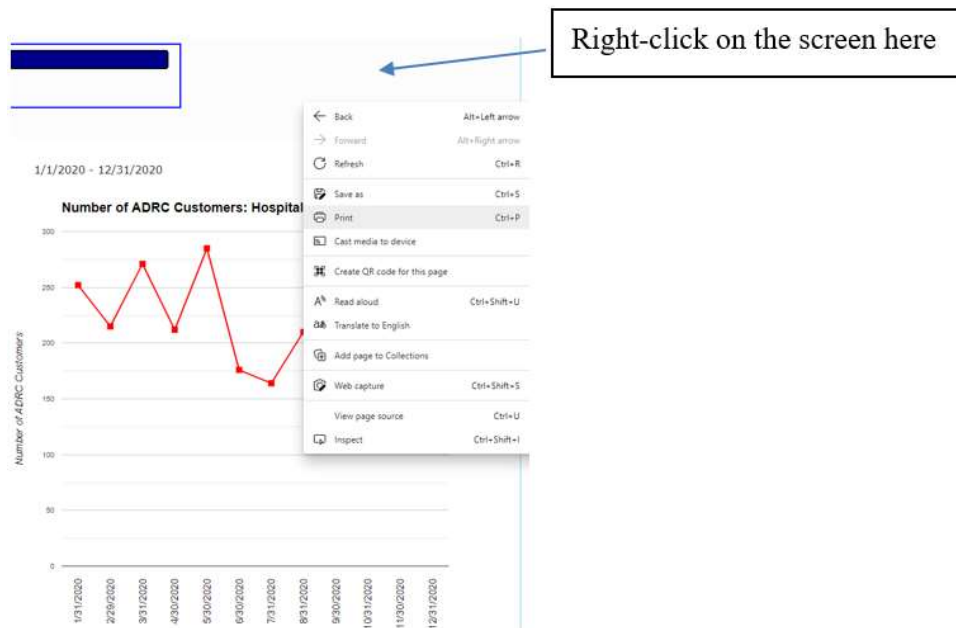
- I. A description of the measure, and the assumptions used for the ROI calculation.
- II. The ROI formula.
- III. The actual ROI calculation for that measure.
- IV. Two charts showing trend data. The first chart displays the monthly savings (in dollars) for the utilization (Hospital 30 Day Readmissions, ED Visits) and ROI measures. The second chart displays the monthly number of ADRC visits for each of the utilization measures, or the monthly ROI for the Overall ROI measure.

- V. If you clicked the “Include Statewide ROI” box, the monthly statewide ROI results will appear on the “Overall ROI” tab in green, along with your ADRC’s ROI results, in red (below).



Printing Options

- To print the charts, right-click with your mouse in an area of the screen that is not directly on the chart itself. An example of where to click is indicated below. An options dropdown will appear, in which you select “Print” to print the entire results tab that you are on. If you prefer to print specific areas of the results tab, you can use a snipping tool to make your selection, and then paste that into a Word document and print that document.



Interpreting Savings, ROI Results

A more detailed explanation of how to understand, interpret and communicate the savings and ROI results is provided below.

It's important to understand that the savings and ROI results are estimates, and not necessarily exact amounts. The results are based on robust, data-driven research analysis. The savings may lie in a range (95% Confidence Interval), which may be an overestimate in some cases, and an under-estimate in others. Again, the results are an appropriate estimation of savings based on the research that was conducted.

- 1) The utilization measure (Hospital 30 Day Readmissions, ED Visits) tabs calculate the savings associated your ADRC. Total cost savings (in dollars) are generated by calculating the total reduction in either Hospital 30 Day readmissions or ED Visits. These calculation formulas are provided in the application.

I. Cost Savings: Hospital 30 Day Readmissions

Savings Calculation	
1. Readmissions Saved = Number of ADRC Contacts * Readmissions Saved Per Contact	
2. Savings from ADRC = Readmissions Saved * Cost of unnecessary hospital readmission	

Savings - 1/1/2020 - 12/31/2020	
1. Readmissions Saved = $2629 * 0.061 = 160.369$	
2. Savings from ADRC = $160.369 * \$14,400.00 * (12 / 12) = \$2,309,313.60$	

- Using the example above, this ADRC had 2,629 unique contacts in the given timeframe (12 month period from 1/1/2020 – 12/31/2020). The research analysis estimates that, for every contact to an ADRC, there is a difference of 0.061 hospital readmissions saved in the 12 month period, post ADRC visit. Therefore, in the given timeframe, the total estimated readmissions saved for particular example is 160.369. Considering each readmission costs \$14,400, the total cost savings, from readmissions alone, is \$2,309,313.60, for this timeframe.

II. Cost Savings: ED Visits

Savings Calculation	
1. ED Visits Saved = Number of ADRC Contacts * ED Visits Saved Per Contact	
2. Savings from ADRC = ED Visits Saved * Cost of unnecessary ED visit	

Savings - 1/1/2020 - 12/31/2020	
1. ED Visits Saved = $2629 * 0.101 = 265.529$	
2. Savings from ADRC = $265.529 * \$530.00 * (12 / 12) = \$140,730.37$	

- The same calculation is applied for the ED Visit utilization measure. The research estimates that, for every contact to an ADRC, there is a difference of 0.101 ED Visits saved in a 12 month period, post ADRC visit. For the ED Visit measure, you will notice that the total cost savings, for the same timeframe and identical number of contacts, produces a much smaller cost savings (\$140,730.37) than the Hospital 30 Day Readmissions measure. This is due that the average cost of an ED Visit (\$530) is much smaller than the average cost of a readmission (\$14,400). The vast majority of savings from services provided by WI ADRCs will therefore come from the reduction of hospital readmissions.

III. Interpreting results for timeframes less than 12 months

Savings Calculation	
1.	Readmissions Saved = Number of ADRC Contacts * Readmissions Saved Per Contact
2.	Savings from ADRC = Readmissions Saved * Cost of unnecessary hospital readmission

Savings -- 1/1/2020 - 3/31/2020	
1.	Readmissions Saved = 741 * 0.061 = 45.201
2.	Savings from ADRC = 45.201 * \$14,400.00 * (3 / 12) = \$162,723.60

- It's important to understand, that for analysis timeframes less than 12 months, the cost savings for both Hospital 30 Day Readmissions and ED Visits will only be a fraction of the cost savings for timeframes of at least 12 months. This is due to the analysis that concluded these savings in readmissions and ED Visits to be 12 months post-ADRC visit. For example, the difference in readmissions saved is 0.061 for 12 months after a customer visits an ADRC. Therefore, analysis for shorter timeframes will not have the same estimated reduction in readmissions.
The example above shows analysis for 3 months of data. With 741 contacts over this period, it is estimated that 45.201 readmissions were saved. However, since the timeframe only includes 3 months, the number of estimated readmissions saved are multiplied by a factor of 3/12(indicated above). This is important to remember when running analysis for shorter timeframes.

IV. Overall ROI

Return on Investment Calculation
1. Savings from ADRC = Savings from 30 Day Hospital Readmissions + Savings from ED Visits
2. Cost of ADRC = Cost of ADRC operations.
3. Return on Investment = (Savings from ADRC - Cost of ADRC) / (Cost of ADRC)

Return on Investment -- 1/1/2020 - 12/31/2020
1. Savings from ADRC = \$2,309,313.60 (savings from Hospital 30 Day Readmissions) + \$140,730.37 (savings from ED Visits) = \$2,450,043.97
2. Cost of ADRC = \$326,859.00
3. Return on Investment = (\$2,450,043.97 - \$326,859.00) / \$326,859.00 = 6.496

This ROI indicates that every dollar spent providing ADRC services to people in the community produces an estimated net savings of \$6.50.

- The ROI is generated by aggregating the total savings (from the reduction of readmissions and ED Visits), subtracting the total cost (total of CARS profiles for the given timeframe), and then dividing that remaining number by the total cost. The ROI result, in this application, is presented in a dollar amount.

Positive ROI results indicate a profitable investment. The example above shows a positive ROI of 6.496. This means for every dollar spent providing ADRC services there is an estimated net savings of \$6.50.